

# Higher gun ownership rates linked to increase in non-stranger homicide, study finds

September 29 2014

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A new study led by a Boston University School of Public Health researcher has found that states with higher estimated rates of gun ownership experience a higher incidence of non-stranger firearms homicides – disputing the claim that gun ownership deters violent crime, its authors say.

The study, published in the *American Journal of Public Health*, found no significant relationship between levels of gun ownership and rates of stranger-on-stranger homicide. But it did find that higher levels of gun ownership were associated with increases in non-stranger [homicide rates](#), including those involving guns.

The study, led by Dr. Michael Siegel, professor of community health sciences at the BU School of Public Health, is the first to look at the association between gun ownership and rates of stranger vs. non-stranger homicides. Last year, Siegel and colleagues reported that U.S. states with higher estimated rates of gun ownership had higher overall numbers of firearms-related homicides.

The new study found that, for each one-percentage point increase in state-level gun ownership, the state's non-stranger homicide rate increased by 0.9 percent, with firearm homicides increasing by 1.4 percent.

Siegel said the aim of the new study was to examine the links between increased gun ownership and the two kinds of homicides, in order to inform public policy regarding deterrents to firearm violence.

"Our findings refute the argument that gun ownership deters strangers from committing homicide," he said. "Instead, these findings suggest that gun ownership actually increases the risk of violent death, as it is associated with higher rates of non-stranger homicide."

The study also revealed that over the past three decades, only about one-fifth of firearm homicides were committed by strangers.

"Despite widespread media attention to mass shootings committed by estranged people, the majority of homicides are committed by individuals known to the victims," the researchers wrote.

Previous studies of the relationship between gun ownership and homicide have grouped all homicides together, without separately examining those committed by strangers and those by acquaintances. Siegel and colleagues used data from the FBI's Supplemental Homicide Report, which classifies homicides by the relationship between the offender and victim. Using data on gun ownership and homicide rates in all 50 states during the period 1981-2010, the investigators explored the relationship between state-level gun ownership and stranger vs. non-stranger homicide rates, while controlling for a wide range of state-level factors.

The study has two important limitations. First, it relied on proxy, rather than survey measurements, of household gun ownership, because of a lack of data on gun ownership at the state level. Instead, the study used a well-validated method for estimating household gun ownership, based on the extent to which guns are used in suicides.

The proxy correlates highly with survey measures of household firearm ownership, the authors said.

Also, Siegel noted, the study did not determine causation, allowing for the possibility that people living in states with higher rates of non-stranger homicide may be more likely to acquire guns.

The authors said the study was "the first to our knowledge to report that a higher proportion of household gun ownership at the state level is associated with statistically significant increased rates of non-stranger total and firearm homicides. By contrast, we found no robust, statistically significant association between household [gun ownership](#) and stranger [homicides](#)."

**More information:** *American Journal of Public Health*, [ajph.aphapublications.org/doi/ ... 105/AJPH.2014.302042](http://ajph.aphapublications.org/doi/.../105/AJPH.2014.302042)

Provided by Boston University Medical Center

Citation: Higher gun ownership rates linked to increase in non-stranger homicide, study finds (2014, September 29) retrieved 4 February 2024 from <https://medicalxpress.com/news/2014-09-higher-gun-ownership-linked-non-stranger.html>

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